

REMARKS-General

The amended independent claim 1 incorporates all structural limitations of the original claim 1 and includes further limitations previously brought forth in the disclosure. No new matter has been included. All new claims 1, 3 and 4 are submitted to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

The applicants respectfully submit all claims 1-5 are commonly owned by Rong Jian Yang and Shing Paau.

Response to Rejection of the Specification under 35USC112

The applicants submit that the new specification describes the subject matter of the instant invention with sufficient clarity and detail to overcome the rejection thereof under 35USC112.

Response to Rejection of Claims 1-5 under 35USC112

The applicants submit that the amended claims 1, 3 and 4 particularly point out and distinctly claim the subject matter of the instant invention, as pursuant to 35USC112.

Response to Rejection of Claims 1-5 under 35USC103

The Examiner rejected claims 1-5 over Miyahara et al (US 4,725,428) in view of Tanii et al (US 5,973,312) and Akita et al (Journal of Food Science, 1992, 57(3):629-634). Pursuant to 35 U.S.C. 103:

“(a) A patent may not be obtained though the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.”

In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)~(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

In other words, the differences between the subject matter sought to be patent as a whole of the instant invention and Miyahara et al which is qualified as prior art of the instant invention under 35USC102 are obvious in view of Tanii et al and Akita et al at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

In claim 1, "effective components composed with IgY and at least one of potassium sorbate and sodium benzoate" is claimed as a combination against dental caries bacteria, wherein 428 patent (Miyahara et al), merely teaches a dental composition comprising an effective amount to inhibit the colonization of streptococcus mutans in the mouth of an antibody against a strain or mutant of human streptococcus mutans serotype c, d, e, f, of g and an effective amount of nonionic surface active agent without any mention of any IgY to dental caries bacterial.

It is clearly described in '428 patent that "the antiserum and milk as well as the antibody separated and purified therefrom may be used. Each of these materials may be used alone or in a combination of two or more (col. 4, lines 67-68, col., lines 1-3)". Col. 4, lines 4-17 generally describes separating and purifying methods for the antibody. And col., 8, lines 63-68 and col., 9, lines 1-23 describe the detailed separating and purifying steps for the antibody. Based on the combination of above-mentioned contents and formulations of the toothpaste and mouthwash presented in experiment 2, 3, 4, 5 and examples 2-9, it can be deduced that the antibody involved in '428 patent comprises of various antibodies or indeed is a composition of protein fraction in the antiserum and the milk.

Immunoglobulin is mainly divided into five classes i.e. IgG, IgA, IgM, IgD and IgE based on the different heavy chain γ , α , μ , δ and ϵ present in the immunoglobulin. Each

immunoglobulin is composed by four polypeptide chains through disulfide bonds, wherein two chains are long i.e. heavy chains and two chains are short i.e. light chain. Each heavy chain or light chain is divided into two regions i.e. variable region and constant region. When the nucleotide sequence even only one base encoding the variable region varies, the construction of the expressed immunoglobulin is different.

So, one of the ordinary skills in the art has no way to know either one component or two components or more in the antibody exerts the inhibitory effect on the colonization of streptococcus mutans in the mouth. Not to mention knowing exactly which component has the dental caries-preventive effect. Indeed, in '428 patent no IgY is mentioned at all.

Applicants of instant application first make efforts to know it is IgY that play an important and primary role in preventing dental caries. Then succeed in separating and purifying IgY from egg yolk through tremendous work. And prove that the IgY of the present invention can effectively inhibit agglutination of streptococcus mutans with the titer 1:512 and obviously inhibit adhesion of the bacteria until it is diluted to 1:8. Experiments carried on rats infected with streptococcus mutans also prove that IgY can effectively prevent occurrence of dental caries.

So knowing why is IgY and how to separate and purify IgY is non-obvious to those skilled in the art.

Applicants believe that for all of the foregoing reasons, all of the claims are in condition for allowance and such action is respectfully requested.

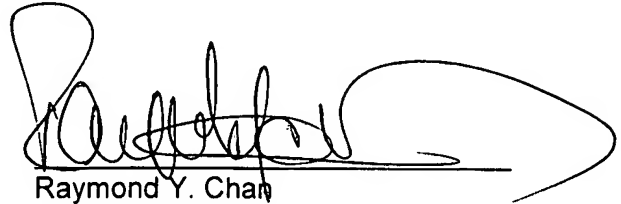
The Cited but Non-Applied References

The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection are requested. Allowance of claims 1, 3, and 4 at an early date is solicited.

Should the Examiner believe that anything further is needed in order to place the application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,




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CERTIFICATE OF MAILING

I hereby certify that this corresponding is being deposited with the United States Postal Service by First Class Mail, with sufficient postage, in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" on the date below.

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